

REMARKS

Claims 1-15 were filed in the application. Claims 10-15 have been withdrawn; therefore, claims 1-9 were presented for consideration. Withdrawn claims 10-15 and claims 1, 6, 7 and 9 are canceled herewith without prejudice or disclaimer. Claims 16-18 are added. Therefore, after entry of this Amendment, claims 2-5, 8 and 16-18 are pending for consideration. No new matter is added with the amendment or new claims.

I. Information Disclosure Statement

According to the Examiner, the listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(x) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the Examiner on form PTO-892, they have not been considered.

In response, applicants herewith submit an Information Disclosure Statement submitting references applicants would like the Examiner to consider. Notification of consideration thereof is respectfully requested.

II. Sequence Compliance

According to the Examiner, the nucleotide sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 -1.825. Specifically, the Examiner states that sequences are disclosed on pages 8 and 12 of the specification that do not have SEQ ID NOS corresponding to a Sequence

Listing or Computer Readable Format of the Sequence Listing and that appropriate correction is required.

In response, Applicants have amended Specification to correct the identifier associated with SEQ ID NO: 1 in paragraph [0058]. Applicants also submit herewith a Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825, a paper copy of the Sequence Listing, and a CD containing the Sequence Listing in electronic form. Withdrawal of this objection is therefore respectfully requested.

Claim 1 is objected to because of the following informalities: Claims recite "Cx40". The specification discloses this as an abbreviation for connexid 40. For clarity, it would be more appropriate to spell out connexin followed by introducing the abbreviation in parentheses (e.g.-connexin 40 (Cx40)) in claim 1. Appropriate correction is required. Applicants assert that this objection is rendered moot with the cancellation of claim 1. New claim 16 is drafted pursuant to the Examiner's suggestion.

Claim 1 is also objected to for its use of the term, "locus". Locus is an "address" on a chromosome and is a region of DNA. It is not synonymous with "gene" and is improperly used in the instant claim. Applicants assert that this objection is rendered moot with the cancellation of claim 1.

Claim 7 is objected to because of the following informalities: The claim recites, ',as cardiac conduction system model". It has been assumed that this is a typographic error and has been interpreted as reciting, "as a cardiac conduction system model". Appropriate correction is required. Applicants assert that this objection is rendered moot with the cancellation of claim 7.

Claim 7 is also objected to because it fails to narrow the scope of that claimed in either of claims 1 or 4. An intended use or statement of what the product is useful for fails to distinguish two products. Applicants assert that this objection is rendered moot with the cancellation of claim 7.

Claim 9 is also objected to because it fails to narrow the scope of that claimed in either of claims 1 or 4. An intended use or statement of what the product is useful for fails to distinguish two products. Applicants assert that this objection is rendered moot with the cancellation of claim 9.

The Examiner also explains that should claim 1 or 4 be found allowable, claims 7 and 9 will be objected to under 37 CFR 1.75 as being a substantial duplicates thereof. Applicants assert that this potential objection is rendered moot with the cancellation of claims 7 and 9.

III. Claim Rejections - 35 USC 112, 1st Paragraph

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, for the alleged reason that the specification, while being enabling for:

A transgenic mouse whose genome comprises a reporter gene inserted into the connexin 40 (Cx40) gene such that the reporter gene is in operable linkage with the endogenous Cx40 promoter and the Cx40 gene leading to co-expression and co-localization of the reporter protein and a functional Cx40 protein and wherein said reporter gene is expressed in the atrio-ventricular node (AVN), His bundle, bundle branches, and Purkinje fibers of the cardiac conduction system (CCS)

And being enabled for:

said transgenic mouse wherein the mouse is homozygous for said reporter gene; and said transgenic mouse wherein an electrical activity of the CCS does not significantly differ from a non-transgenic control mouse and the expression profiles of the fluorescence protein in the left and right bundle branches correspond with the left and right electrical activity maps providing an image of the mouse ventricular conduction system, does not reasonably provide enablement for:

A transgenic mouse comprising 1) any reporter gene encoding a non-fluorescent gene product 2) with any or no promoter wherein said reporter gene is incorporated into 3) any location within the locus in which the cx40 gene is found, wherein the reporter gene is expressed in 4) any component of the CCS, wherein 5) offspring of the transgenic mouse are produced with a double eGFP positive allele, and wherein one allele is inactivated.

Applicants respectfully traverse this rejection. However, in further response and in order to advance the allowance of this application, applicants herewith cancel claim 1 and add new claims 16-18 in line with the Examiner's above suggestion. In view of the Examiner's assertion with regard to enabled subject matter, the enablement rejection is rendered moot. Withdrawal of the enablement rejection is therefore respectfully requested.

IV. Claim Rejections - 35 USC § 112, 2nd Paragraph

Claims 2-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each objection and response follows.

Claim 2 recites the limitation "the knock-in reporter gene" in 2. According to the Examiner, there is insufficient antecedent basis for this limitation in the claim. In response, applicants have amended claim 2 to remove the word "the knock-in".

Claims 2-9 recite "a..... mouse according to". According to the Examiner, the metes and bounds of this recitation are indefinite because it is unclear if this is referring to the mouse of a previous claim or a variant of the mouse of a previous claim. In response, applicants have amended the objectionable claims to recite "The...." Instead of "A...".

Claim 4 recites the limitation "the Cxn protein" in 2. According to the Examiner, there is insufficient antecedent basis for this limitation in the claim. Claims 5-9 depend upon claim 4. In response, applicants have eliminated this objectionable phrase from claim 4.

Claims 5 recites "a double eGFP+ allele". According to the Examiner, the metes and bounds of this recitation are indefinite because it is unclear if this is meant to refer to a mouse homozygous for eGFP or to have two copies present in the same allele. Claim 6, 8, and 9 depend from claim 5. In response, applicants have amended claim 5 to recite "homozygous for eGFP."

Claim 6 recites "at least one allele which is inactivated". According to the Examiner, the metes and bounds of this recitation are indefinite because it is not clear if this recitation is referring to one or both of the double alleles or some completely different allele. Claims 8 and 9 depend from claim 6. In response, applicants have cancelled claim 6 without prejudice or disclaimer.

Claim 8 recites the limitations, "the eGFP+ cells" in line 2 and "the anatomical description" in line 3. According to the Examiner, there is insufficient antecedent basis for these limitations in the claim. The Examiner further asserts that the metes and bounds of "the anatomical description" are indefinite because it is unclear if this is referring to the anatomical structure that had cells positive for eGFP or another anatomical description. Claims 9 depends from claim 8. In response, applicants have amended claim 8 to clarify the invention.

Claim 9 recites the limitations, "the GFP images" in lines 1-2 and "the electrical activation maps" in line 3. According to the Examiner, there is insufficient antecedent basis for this limitation in the claim. This objection is moot in view of the cancellation of claim 9, without prejudice or disclaimer.

In view of the above response and amendment, applicants respectfully request the Examiner to withdraw all rejections under 35 USC § 112, second paragraph.

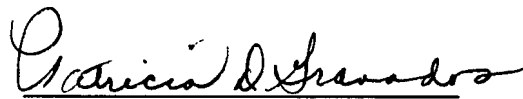
CONCLUSION

In light of the above amendments and comments, Applicants respectfully request that all rejections and objections be withdrawn and that a timely Notice of Allowance should be issued in this application.

Should the Examiner believe that anything further is necessary in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefore are hereby authorized to be charged to our Deposit Account No. 01-2300 referencing docket number 029440.00005.

Respectfully submitted,



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